

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2003年11月6日 (06.11.2003)

PCT

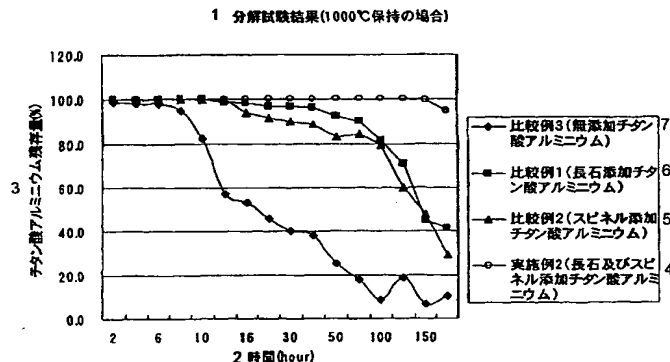
(10) 国際公開番号
WO 03/091183 A1

- (51) 国際特許分類⁷: C04B 35/478 (72) 発明者; および
(21) 国際出願番号: PCT/JP03/04813 (75) 発明者/出願人 (米国についてのみ): 横尾 俊信 (YOKO, Toshinobu) [JP/JP]; 〒611-0013 京都府 宇治市 莒道門ノ前3 1-1 パデション三室戸1 2 0号 Kyoto (JP). 高橋 雅英 (TAKAHASHI, Masahide) [JP/JP]; 〒611-0011 京都府 宇治市 五ヶ庄官有地 京大職員宿舎 1 棟 1 1 3 号 Kyoto (JP).
(22) 国際出願日: 2003年4月16日 (16.04.2003)
(25) 国際出願の言語: 日本語
(26) 国際公開の言語: 日本語
(30) 優先権データ:
特願2002-126553 2002年4月26日 (26.04.2002) JP
(71) 出願人 および
(72) 発明者: 福田 勉 (FUKUDA, Tsutomu) [JP/JP]; 〒675-1213 兵庫県 加古川市 上荘町国包7 8 5-1 Hyogo (JP). 福田 匡洋 (FUKUDA, Masahiro) [JP/JP]; 〒611-0041 京都府 宇治市 横島町目川5 2 番地 朝日プラザ向島南1 0 5号 Kyoto (JP). 福田 匡晃 (FUKUDA, Masaaki) [JP/JP]; 〒675-1213 兵庫県 加古川市 上荘町国包7 8 5-1 Hyogo (JP).
(81) 指定国 (国内): CA, CN, KR, US.
(84) 指定国 (広域): ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).
添付公開書類:
— 国際調査報告書

[続葉有]

(54) Title: METHOD FOR PRODUCING ALUMINUM TITANATE SINTERED COMPACT

(54) 発明の名称: チタン酸アルミニウム焼結体の製造方法



- 1...RESULTS OF DECOMPOSITION TEST (HOLDING AT 1000°C)
2...TIME (HOUR)
3...RESIDUAL AMOUNT OF ALUMINUM TITANATE (%)
4...EXAMPLE 2 (ALUMINUM TITANATE ADDED WITH FELDSPAR AND SPINEL)
5...COMPARATIVE EXAMPLE 2 (ALUMINUM TITANATE ADDED WITH SPINEL)
6...COMPARATIVE EXAMPLE 1 (ALUMINUM TITANATE ADDED WITH FELDSPAR)
7...COMPARATIVE EXAMPLE 3 (ALUMINUM TITANATE ALONE)

(57) Abstract: A raw material composition for an aluminum titanate sintered compact, characterized in that it comprises (1) 100 parts by weight of a mixture comprising 40 to 50 mole % of TiO_2 and 60 to 50 mole % of Al_2O_3 , and (2) 1 to 10 parts by weight of alkali feldspar represented by the chemical formula: $(\text{Na}_x\text{K}_{1-x})\text{AlSi}_3\text{O}_8$ ($0 \leq x \leq 1$) and 1 to 10 parts by weight of at least one Mg-containing component selected from the group consisting of an oxide containing Mg and having a spinel type structure, MgCO_3 and MgO ; and a method for producing aluminum titanate sintered compact, characterized in that it comprises firing moldings formed from the raw material composition at 1300 to 1700°C. The method allows the production of an aluminum titanate sintered compact which exhibits enhanced mechanical strength and can be used stably also at a high temperature, while retaining a small thermal expansion coefficient and good corrosion resistance being inherent in an aluminum titanate sintered compact itself.

[続葉有]

ABSTRACT

The present invention provides a raw material composition for preparing a sintered body of aluminum titanate, the composition comprising (i) 100 parts by weight of a mixture comprising 40 to 50 mol% of TiO_2 and 60 to 50 mol% of Al_2O_3 , (ii) 1 to 10 parts by weight of an alkali feldspar represented by the formula: $(\text{Na}_x\text{K}_{1-x})\text{AlSi}_3\text{O}_8$ ($0 \leq x \leq 1$), and (iii) 1 to 10 parts by weight of at least one Mg-containing component selected from the group consisting of a Mg-containing oxide with spinel structure, MgCO_3 and MgO , and a process for preparing a sintered body of aluminum titanate comprising sintering a formed product prepared from the raw material composition at 1300 to 1700°C. According to the present invention, a sintered body of aluminum titanate having high mechanical strength and ability to be stably used at high temperatures, as well as its inherent properties of low coefficient of thermal expansion and high corrosion resistance, can be obtained.